REMARKS

Claims 1, 3, 4, 6, 7, 11, 13, 15 and 19-22 are pending in this application. Claims 2, 5, 8-10, 12, 14 and 16 have been cancelled without prejudice or disclaimer. Claims 1, 3, 6, 7, 11 and 13 have been amended herein and new claims 19-22 have been added herein.

Applicant is advised that should claims 1, 3-4, 7, 9, 11, 13 and 15 be found allowable, claims 2, 5-6, 8, 10, 12, 14 and 16 respectively will be objected to under 37 C.F.R. 1.75 as being a substantial duplicate thereof.

The potential objection is overcome by the cancellation of claims 2, 5, 8-10, 12, 14 and 16 without prejudice or disclaimer, and by the amendment to claim 6.

Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi et al. (U.S. 6,226,310).

The Examiner asserts that Takagi et al. discloses a plurality of poles (current blocking layer 63), a first film (SiO_2 film 53) formed on the sides of the poles, and a second film of polyimide (polyimide layer 52) buried among said a plurality of poles.

Applicants respectfully assert that Takagi et al. is irrelevant to the present invention.

First, in the present invention, an insulation film comprising a plurality of poles 36, a first film 38 formed on each side surfaces of the poles 36 and a second film 40 buried among said a plurality of poles is formed under a bonding pad 24c (see the attached annotated FIG. 1 and 2A).

On the other hand, in Takagi et al., such insulation film is not formed under a bonding pad.

As shown in the attached annotated FIGs. 1 and 2, the bonding pad of Takagi et al. is a portion of an electrode 35 outside a mesa structure. In Takagi et al., only a SiO_2 film 54 and the polyimide layer 52 are formed under the bonding pad. Such insulation film of the present invention is not formed under the bonding pad of Takagi et al.

Second, a plurality of poles of the present invention is formed of polyimide.

On the other hand, the current blocking layer 63 of Takagi is formed of InP. About this point, the Examiner asserts that it is well known in the art that polyimide may be used as a current blocking layer 63. However, Applicants respectfully submit that the assertion of the Examiner is incorrect. Polyimide cannot be used as a material of the current blocking layer 63. In a case that polyimide is used as the material for the current blocking layer 63, a p type InP cladding layer 49 and a p type InGaAs contact layer 41 cannot be epitaxially grown using MOCVD (see column 12, lines 50-53). Polyimide cannot bear high temperature in MOCVD.

Third, a second film of the present invention is buried among said a plurality of poles.

On the other hand, the polyimide layer 52 of Takagi et al. is not buried among the current blocking layers 63. In Takagi et al., the polyimide layer 52 is buried on both sides of the mesa structures 38, 57, 61, 64.

Therefore, Takagi et al. is irrelevant to the present invention.

In the present invention, since the first film of a high hardness is formed on the each side surfaces of the poles of polyimide, the poles and the second film is prevented from being distorted, even when a strong force is applied upon the bonding pad. Therefore the bonding pad is prevented from peeling off, even in a case that a thick polyimide layer is formed below the bonding pad. In the

present invention, since the thick polyimide layer is formed below the bonding pad, a parasitic capacity between the bonding pad and the lower layer is small, whereby radio-frequency signals can be used.

Such technique of the present invention is neither disclosed nor suggested in Takagi et al.

As described above, it would have been unobvious to one of ordinary skill in the art at the time the invention was made to have modified the teaching Takagi et al. to produce the present invention.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

Attached hereto is a marked-up version of the changes made by the current amendment. The attached page is captioned "**Version with markings to show changes made**."

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, WESTERMAN & HATTORI, LLP

Daniel A. Geselowitz, Ph.D.
Agent for Applicants
Reg. No. 42,573

DAG/plb
Atty. Docket No. **991387**
Suite 1000, 1725 K Street, N.W.
Washington, D.C. 20006
(202) 659-2930

23850
PATENT TRADEMARK OFFICE

Enclosures: Version with markings to show changes made
Annotated Fig. 1 of present application
Annotated Figs. 2A and 2B of present application
Annotated Figs. 1 and 2 of U.S. Patent No. 6,226,310
Annotated Figs.3a-d of U.S. Patent No. 6,226,310

H:\FLOATERS\DAG\Amendments\991387 amend 2-24-03

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please amend claims 1, 3, 6, 7, 11 and 13 as follows:

1. (Twice Amended) An electrode structure including a ~~conductive film~~ bonding pad formed on an insulation film without penetrating the insulation film, the insulation film being formed ~~on~~ above a base substrate,

the insulation film comprising a plurality of poles of polyimide, a first film formed on each side surfaces of the poles and formed of an insulation material having a higher hardness than polyimide, and a second film of polyimide buried among said a plurality of poles with the first film formed on the side surfaces thereof.

3. (Twice Amended) A semiconductor light-emitting device having an electrode structure including a ~~conductive film~~ bonding pad formed on an insulation film without penetrating the insulation film, the insulation film being formed ~~on~~ above a base substrate,

the insulation film comprising a plurality of poles of polyimide, a first film formed on each side surfaces of the poles and formed of an insulation material having a higher hardness than polyimide, and a second film of polyimide buried among said a plurality of poles with the first film formed on side surfaces thereof.

6. (Amended) A semiconductor light-emitting device according to claim ~~5~~ 3, wherein the ~~second~~ first film is also formed on upper surfaces of the ~~first~~ second film.

7. (Thrice Amended) A semiconductor light-emitting device according to claim 3, wherein ~~the conductive film is formed on~~ a third film of an insulation material ~~without penetrating the third film, the third film is formed on~~ is sandwiched between the insulation film and the bonding pad.

11. (Amended) A semiconductor light-emitting device according to claim 3, wherein

the insulation film is formed on a layer formed on the base substrate ~~and~~ , the layer being formed of a material having a higher hardness than the polyimide.

13. (Thrice Amended) A semiconductor light-emitting device including a waveguide, a lower electrode formed below the waveguide, and an upper electrode formed above the waveguide,

the upper electrode having an electrode structure,

the electrode structure including a ~~conductive film~~ bonding pad formed on an insulation film without penetrating the insulation film, the insulation film being formed ~~on~~ above a base substrate,

the insulation film comprising a plurality of poles of polyimide, a first film formed on each side surfaces of the poles and formed of an insulation material having a higher hardness than polyimide, and a second film of polyimide buried among said a plurality of poles with the first film formed on the side surfaces thereof.